

Wray C. Hiser
Senior Counsel

317 267 6677

RCA



RECEIVED BY

NOV 29 1988

MAIL BRANCH

Ms. Donna Searcy
Secretary
Federal Communications Commission
1919 M. Street, N.W., Room 222
Washington, DC 20554

November 28, 1988

Re: Tentative Decision and Further Notice of Inquiry
MM Docket No. 87-268

Dear Ms. Searcy:

Enclosed please find our original and nine photostatic copies of the comments of Thomson Consumer Electronics, Inc. in the above-referenced matter. We request that these comments be filed in the Commission records on this matter and that each Commission be provided with a copy of the comments.

Sincerely,

Wray C. Hiser
/jas

Attachments

049

Thomson Consumer Electronics, Inc.

600 N. Sherman Dr. | P.O. Box 1976, Indianapolis, IN 46206-1976

RECEIVED BY
NOV 29 1968
MAIL BRANCH

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D. C. 20554

In the Matter of)

Advanced Television Systems)
and Their Impact on the)
Existing Television Broadcast)
Service)

Review of Technical and)
Operational Requires: Part)
73-E, Television Broadcast)
Stations)

Reevaluation of the UHF)
Television Channel and Distance)
Separation Requirements of Part)
73 of the Commission's Rules)

MM Docket No. 87-268

**COMMENTS OF
THOMSON CONSUMER ELECTRONICS, INC.
IN RESPONSE TO
THE COMMISSION'S TENTATIVE DECISION
AND FURTHER NOTICE OF INQUIRY**

TABLE OF CONTENTS

	PAGE
I. INTRODUCTION	3
A. Thomson Consumer Electronics, Inc.	3
B. The FCC Process	4
II. TENTATIVE DECISION AND ADVISORY COMMITTEE'S INTERIM REPORT	5
III. NTSC COMPATIBILITY	7
IV. SPECTRUM ALLOCATION ISSUES	9
V. ATV STANDARD	12
A. NTSC Standard	12
B. Establishment of ATV Standard	13
VI. CONCLUSION	16

I. INTRODUCTION

Thomson Consumer Electronics, Inc. files the following comments in response to the Commissions's Tentative Decision and Further Notice of Inquiry ("Notice") released on September 1, 1988 in the above-referenced proceeding.

A. Thomson Consumer Electronics, Inc.

Thomson Consumer Electronics, Inc. ("Thomson"), successor company to the GE and RCA Consumer Electronics businesses, is the leading manufacturer of televisions in the United States. Thomson is proud to continue the strong heritage of the RCA and GE consumer electronics businesses in bringing to American consumers the best in television product innovation and quality. Working with the National Broadcasting Company ("NBC"), we are actively supporting the David Sarnoff Research Center in developing an advanced television system which is fully NTSC-Compatible

and can be introduced in a single 6-MHz channel in its first phase. Consequently, Thomson is acutely interested in these proceedings and submits the following Comments to assist the Commission in its implementation of an Advanced Television ("ATV") system in the United States. In addition, Thomson has worked with the Advanced Television Committee of the Electronic Industries Association ("EIA-ATV") in formulating the Comments being filed by that committee on behalf of the industry. We heartily endorse the positions expressed by EIA-ATV in its Comments and file these brief comments to stress a few critical points.

B. The FCC Process

Thomson commends the Commission for the significant strides it has taken in formulating a comprehensive framework in which to analyze the diverse issues involved in the implementation of advanced television. The Advisory Committee on Advanced Television Service has, in a short time, achieved significant accomplishments. The

consensus - building process which has been initiated will become a major foundation for the selection and implementation of an ATV standard.

II. TENTATIVE DECISION AND ADVISORY COMMITTEE'S INTERIM REPORT

The Notice requests comments on the conclusions of the Advisory Committee as expressed in its Interim Report. Thomson agrees with the bulk of the Interim Report and specifically endorses the conclusions that compatibility with existing NTSC receivers is essential for any ATV system and that terrestrial broadcasters must be given the opportunity to deliver signals which are at least equivalent to the signals provided by other media.

Thomson believes that an early start on implementation of ATV and allocation of adequate spectrum to deliver HDTV images are the most important steps to enable broadcasters to remain competitive with other delivery media. If it is not possible to provide broadcasters with adequate spectrum in a time frame consistent with the delivery of ATV by other media, the most effective ATV route

for broadcasters is an NTSC compatible system which uses only the presently assigned 6 MHz channels. That approach allows broadcasters to start ATV delivery early and to provide a rapid build-up of ATV program delivery.

A rapid build-up of ATV program delivery is essential to stimulate the development of ATV receivers by equipment manufacturers and the purchase of those ATV receivers by consumers. No other route provides such an expedient solution to the difficult "chicken and egg" problem - "why broadcast when there are so few receivers?" and "why buy an expensive receiver when there is so little broadcast?"

A single channel NTSC compatible ATV system is also the most economical approach for the broadcasters, consumer electronics manufacturers and the consumer. The broadcasters can use their present transmitters and economical new studio equipment. Consumer electronics manufacturers and the consumers benefit from the cost advantages provided by a faster volume build up of receiver purchases.

If an NTSC compatible, 6 MHz channel is used to introduce ATV, broadcasters will still need additional spectrum to deliver an augmentation signal to enhance the quality of the ATV picture in the future. This allocation of additional spectrum cannot be accomplished now. It is Thomson's belief that only after the complex issues of spectrum availability, taboo elimination, non-contiguous channel broadcasting, tuner selectivity, etc. have been resolved through experimental testing can additional spectrum be assigned to assure broadcaster competitiveness in ATV picture performance with other delivery media.

III. NTSC COMPATIBILITY

Thomson supports the Commission's tentative decision to limit its consideration of ATV systems to those which are NTSC compatible or which simultaneously transmit NTSC and ATV on dual channels and which require no more than 6 MHz of additional bandwidth per station.

It is unrealistic to even entertain the possibility that the estimated 160 million NTSC television receivers currently operating in the United States could be made obsolete and unable to receive broadcast signals. Serious consideration of such a condition would likely cause potential customers to adopt a wait-and-see attitude, causing a precipitous decline in sales of current receivers.

By maintaining compatibility with existing and future NTSC receivers, an ATV system that promises improved video quality will enhance and encourage receiver sales to individuals prepared and eager to make the investment, without discouraging replacement or new sales of NTSC sets to those individuals either not ready or capable of purchasing an ATV receiver.

The tentative decision of the Commission also stated that a simulcast noncompatible ATV signal, limited to a maximum of 6 MHz of channel bandwidth, is a possible approach. It has not been demonstrated, however, that a 6 MHz channel can deliver an ATV

It is unrealistic to even entertain the possibility that the estimated 160 million NTSC television receivers currently operating in the United States could be made obsolete and unable to receive broadcast signals. Serious consideration of such a condition would likely cause potential customers to adopt a wait-and-see attitude, causing a precipitous decline in sales of current receivers.

By maintaining compatibility with existing and future NTSC receivers, an ATV system that promises improved video quality will enhance and encourage receiver sales to individuals prepared and eager to make the investment, without discouraging replacement or new sales of NTSC sets to those individuals either not ready or capable of purchasing an ATV receiver.

The tentative decision of the Commission also stated that a simulcast noncompatible ATV signal, limited to a maximum of 6 MHz of channel bandwidth, is a possible approach. It has not been demonstrated, however, that a 6 MHz channel can deliver an ATV

picture of the quality that will be eventually needed to enable broadcasters to compete with other media. Furthermore, this arrangement suffers from an inefficient use of broadcast spectrum. Some regions of the United States, most notably the Eastern corridor, are currently heavily populated with broadcast stations. Finding an additional 6 MHz of spectrum for each broadcaster in an already crowded area may be impossible, thereby creating the problem of allocating too little spectrum among too many broadcasters.

It seems clear, therefore, in a world where demand for broadcast spectrum already exceeds supply, a non-compatible ATV system would severely restrict the speed and manner in which ATV is adopted by both the broadcast and receiver manufacturing industries.

IV. SPECTRUM ALLOCATION ISSUES

Thomson concurs with the comments of the EIA in recommending that any decision of the Commission regarding additional spectrum allocation for ATV systems requires thorough and exhaustive testing.

The growing consensus that current technology can resolve the many problems associated with spectrum allocation may be well-founded. However, before the caveats concerning traditional taboos are totally dismissed, further testing and verification is necessary. Augmentation signals noncontiguous with the basic ATV signal present receiver design problems that previously were unknown. Relaxing requirements with respect to location and proximity of broadcast antenna systems also may result in previously unaddressed issues. Although these issues are not likely to be insurmountable, careful analysis through research and testing is prudent to avoid significant problems that may be easily addressed initially but more difficult to solve after a system is implemented.

The Commission has invited comment on four possible options for allotment of additional spectrum. Thomson suggests, however, that any selection of one of these four options at this time would be premature. None of the proposed systems has been tested under actual UHF and VHF transmission

conditions as proposed by the Commission's Tentative Decision. It makes little sense, therefore, to begin making spectrum assignment decisions until system testing has indicated whether the proposals are viable under the preliminary requirements which the Commission has established.

Significant work has been initiated, for example, in the area of spectrum availability. Much work still needs to be conducted, however, before those studies can determine how much spectrum is actually available in the UHF and VHF bands for ATV use. Concurrent with that work, further study is required on the critical effect of reducing or eliminating the taboo channels on the existing population of NTSC receivers. The selectivity of new tuners and the basic characteristics of the new ATV signals are not yet known. Assignment of any additional spectrum must, therefore, await evaluation of the proposed systems and interference testing. Only then can additional spectrum be equitably assigned to all broadcasters.

For the same reasons, consideration of assignment of VHF or UHF spectrum to non-TV usage should likewise await evaluation of the proposed ATV systems and interference testing.

V. ATV STANDARD

Thomson supports the EIA-ATV position that the Commission plays a tri-partite role in the area of ATV standard setting: (1) As a Catalyst to initiate the consensus-building process; (2) As the Endorser of the industry's consensus standard; and (3) As the Enforcer of that standard. The work accomplished to date in the ATV area has amply demonstrated how the Commission can use its power to identify the issues and to bring divergent factions together to develop and implement a single, viable standard that best serves the public interest.

A. NTSC Standard

Thomson agrees with the Commission that the NTSC standard should not be relaxed or eliminated.

B. Establishment of ATV Standard

The Commission should endorse an ATV standard as recommended by the industry. The adoption by the Commission of a single standard is necessary to avoid consumer confusion among competing systems and to help ensure rapid development and penetration of ATV equipment. It is our firm belief that only through the adoption of a single standard for terrestrial broadcasting, which is compatible with cable and "friendly" with other delivery media, will sufficient consumer confidence in ATV be generated. In that way, receiver purchase volume will rise to the level that ATV receivers can become affordable by the general population.

Thomson agrees with the Commission that it is premature to consider adoption of any ATV broadcast transmission standard. The Advisory Committee has just begun the important phase of evaluating and testing the various system

proposals. Only after those tests have been completed and it is clear that industry supports the various trade-offs involved in each "surviving" system can the final selection process be made.

The Commission also inquired about the possibility of de facto standard for ATV transmission if the Commission fails to act. Thomson believes that a de facto standard is possible, but at a much greater cost. A de facto standard is likely to be slow in emerging causing confusion and uncertainty among consumers and equipment manufacturers. ATV penetration will be impeded, and broadcasters will have less incentive to invest in the equipment necessary to broadcast ATV signals. The result could well be that broadcasters would be relegated to transmitting inferior video, and many consumers would be deprived of the opportunity to receive ATV signals.

Thomson believes that the ATV standard selected should be mandatory and should not have a limited duration.

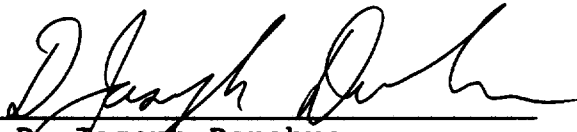
Thomson has serious concerns about the possibility of an open architecture approach. Even if the concept of open architecture can be validated and equipment built which is reliable, the expense and confusion to the consuming public is likely to be so great that it would impede the acceptance of Advanced Television. Open architecture would, in our opinion, be a disservice to the American public.

Thomson concurs with the Commission that the ATV signal must be compatible with NTSC receivers. Consumers should not be required to purchase a converter to continue using their NTSC receivers. Such a requirement would economically disadvantage those least able to afford new ATV receivers and is unacceptable.

Finally, Thomson believes that all media transmission systems must be raster format compatible, i.e., the same number of horizontal and vertical lines and the time interval of each

be conducted in all of these areas. Much of that work can be conducted simultaneously with the testing of the proposed systems. The Commission and its Advisory Committee have established the framework to accomplish those major tasks. Now, the Commission must allow the process it has initiated to select the best system to provide advanced television service to the American public.

Respectfully submitted,

By 
D. Joseph Donahue
Vice President and
Senior Scientist

Date: November 30, 1988